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## Abstract

In a driven axle assembly (12) for a motor vehicle that includes a differential housing located substantially in the center of the axle and tubes (16, 17) extending laterally from the differential, surrounding axle shafts (20) and opening into a lubricant reservoir (60) in the differential housing, a system for circulating and cooling axle lubricant includes a cover (26) for closing and sealing the housing having a first aperture into the housing where a ring gear rotates through the lubricant reservoir. The aperture in the cover opens to a chamber that holds lubricant carried through the aperture by the rotating ring gear. Conduit (72) connected by a hydraulic fitting to the chamber has its opposite end connected to an oil cooler mounted on the axle tube. Conduit (78) returns the lubricant to the reservoir in the differential housing. Lubricant flows via a gravity feed through the first conduit into the cooler and back to the housing reservoir via the second conduit, effectively cooling the lubricant without the addition of a pump.

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